Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (currently amended) An intravascular guidewire selectively shapeable by a user and configured for navigation through a vessel lumen of a patient, the guidewire comprising:

an elongate core wire comprising a constant diameter portion and a tapered portion extending distally from the constant diameter portion to a distal end of the core wire, at least the tapered portion formed of a super elastic nickel titanium alloy which is not independently shapeable by forces normally subjected to during a medical procedure; and

a polymer jacket comprising a shape memory polymer attached to and surrounding the tapered portion of the core wire formed of a super elastic nickel titanium alloy, the polymer jacket having a length extending proximally from the distal end of the core wire to at least the constant diameter portion, wherein the polymer jacket is in continuous contact with the core wire throughout a majority of the length of the polymer jacket, the polymer jacket being more stiff than the portion of the core wire formed of a super elastic nickel titanium alloy which it surrounds;

wherein the tapered portion of the core wire surrounded by the polymer jacket is bent into a curved shape, wherein the polymer jacket overcomes biasing forces imposed by the elongate core wire which tend to straighten the tapered portion of the core wire from the curved shape such that the stiffness of the polymer jacket retains the tapered portion of the elongate core wire in the curved shape in the vessel lumen of the patient;

wherein the shape memory polymer is one from a subset of polymers which are characterized by their responsiveness to heating at or above a glass transition temperature of the shape memory polymer in order to independently transform the shape memory polymer between a first shape and a second shape;

wherein the glass transition temperature of the shape memory polymer is greater than the body temperature of the patient such that the curved shape imparted in the elongate core wire is sustained when the guidewire is navigated through the vessel lumen of the patient.

2-4. (canceled)

5. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory polyurethane.

6. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory polynorbornene or copolymers or blends thereof.

7. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory polycaprolactone or (oligo)caprolactone copolymer.

8. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory polymethylmethacylate.

9. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory PLLA copolymer.

10. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory PLLA PGA copolymer.

11. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory PL/D LA copolymer.

12. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory PMMA copolymer.

13. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory cross-linked polyethylene.

14. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory cross-linked polyisoprene.

15. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory styrene-butadiene copolymer.

16. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises a photocrosslinkable polymer.

17-19. (canceled)

20. (previously presented) An intravascular guidewire selectively shapeable by a user and configured for navigation through a vessel lumen of a patient, the guidewire comprising:

an elongate core wire comprising a distal tip portion formed of a super elastic nickel titanium alloy having an elastic limit; and

a polymer jacket attached to and surrounding the entire distal tip portion of the core wire such that a substantial portion of the polymer jacket is in contact with the core wire, the polymer jacket comprising a shape memory polymer having an elastic limit, the polymer jacket being more stiff than the distal tip portion of the core wire which it surrounds such that when the distal tip portion is deformed into a curved shape within the elastic limit of the super elastic nickel titanium alloy and beyond the elastic limit of the shape memory polymer, the stiffness of the polymer jacket retains the curved shape imparted on the distal tip portion of the elongate core wire in the vessel lumen of the patient;

wherein the shape memory polymer is one from a subset of polymers which are characterized by their responsiveness to heating at or above a glass transition temperature of the shape memory polymer in order to independently transform the shape memory polymer between a first shape and a second shape;

wherein the glass transition temperature of the shape memory polymer is greater than the body temperature of the patient such that the curved shape imparted in the elongate core wire is sustained when the guidewire is navigated through the vessel lumen of the patient.

21-23. (canceled)

24. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory polyurethane.

25. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory polynorbornene or copolymers or blends thereof.

26. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory polycaprolactone or (oligo)caprolactone copolymer.

27. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory polymethylmethacylate.

28. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory PLLA copolymer.

29. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory PLLA PGA copolymer.

30. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory PL/D LA copolymer.

31. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory PMMA copolymer.

32. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory cross-linked polyethylene.

33. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory cross-linked polyisoprene.

34. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory styrene-butadiene copolymer.

35. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises a photocrosslinkable polymer.

36. (currently amended) An intravascular guidewire selectively shapeable by a user and configured for navigation through a vessel lumen of a patient, the guidewire comprising:

a ~~super elastic nickel titanium alloy~~ core wire having a constant diameter portion and a tapered portion ~~and~~ extending distally from the constant diameter portion to a distal end of the core wire, the tapered portion formed of a super elastic nickel titanium alloy; and

a polymer jacket having a length, the polymer jacket attached to and surrounding ~~a portion of the core wire including~~ the entire tapered portion ~~and~~ from the distal end to the constant diameter portion of the core wire such that the polymer jacket is in continuous contact with the core wire throughout a majority of the length of the polymer jacket, the polymer jacket being more stiff than the portion of the core wire which it surrounds;

wherein the tapered portion of the core wire surrounded by the polymer jacket is bent into a curved shape, wherein the polymer jacket overcomes biasing forces imposed by the tapered portion of the core wire which tend to straighten the tapered portion of the core wire from the curved shape such that the stiffness of the polymer jacket retains the tapered portion of the elongate core wire in the curved shape in the vessel lumen of the patient;

wherein the polymer jacket comprises a shape memory polymer so characterized by its ability to independently transform to an alternate shape as a result of being subjected to heating at or above a glass transition temperature of the shape memory polymer;

wherein the glass transition temperature of the shape memory polymer is chosen such that the curved shape imparted in the elongate core wire is sustained when the guidewire is navigated through the vessel lumen of the patient.

37. (canceled)

38. (previously presented) The intravascular guidewire of claim 20, wherein the distal tip portion of the core wire includes a tapered portion.

39-44. (canceled)

45. (previously presented) An intravascular guidewire selectively shapeable by a user and configured for navigation through a vessel lumen of a patient, the guidewire comprising:

an elongate core wire including a proximal portion and a distal portion, wherein at least the distal portion is formed of a super elastic metal having an elastic limit and having a resiliency to being substantially straight; and

a polymer jacket attached to and surrounding at least the distal portion of the elongate core wire formed of a super elastic metal, the polymer jacket comprising a shape memory polymer having an elastic limit, the polymer jacket being more stiff than the distal portion of the core wire which it surrounds such that when the distal portion of the core wire and the polymer jacket are deformed into a curved shape within the elastic limit of the super elastic metal and beyond the elastic limit of the shape memory polymer, the stiffness of the polymer jacket overcomes the resiliency of the core wire in order to retain the shape imparted on the distal portion of the elongate core wire in the vessel lumen of the patient;

wherein the shape memory polymer is one from a subset of polymers which are characterized by their responsiveness to heating at or above a glass transition temperature of the shape memory polymer in order to independently transform the shape memory polymer between a first shape and a second shape;

wherein the glass transition temperature of the shape memory polymer is greater than the body temperature of the patient such that the curved shape imparted in the elongate core wire is sustained when the guidewire is navigated through the vessel lumen of the patient.